

11406 Best Trap

Construction of your new science lab has just ended. In the floor you have deployed your newly invented equipment. If deployed beneath the floor, It displays the co-ordinates of points in the floor which are occupied by any material, even light-weighted ones. They are displayed in a computer which is located in control room.

You are entering the room and switching the equipment on. The under-floor lighting has revealed you that several mosquitoes are on the floor. Ha! You have discovered a real-time use for your newly invented equipment. Conical nets are available with the lab-incharge. You can place a net in the floor and all the mosquitoes inside the net will be caught. All the mosquitoes that are not caught will fly-off and escape. You have only one attempt. But you are greedy! You want to catch maximum mosquitoes. You are a brilliant guy. You are rushing to the control room for co-ordinates of mosquitoes. You decide to catch them so you are asking the lab-incharge for a net. He gives you a net(CONICAL) of base radius r . He is asking you how many you can catch with that net. Answer him.

Given the size of the room $N * N$, number of mosquitoes num , Base-radius of net r , which is a double and co-ordinates of the mosquitoes which are double values, print the maximum number of mosquitoes you can trap. The centre of the room is taken as the origin $(0, 0)$. So, If size is N , rooms corners are $(N/2, N/2)$, $(-N/2, N/2)$, $(N/2, -N/2)$ and $(-N/2, -N/2)$.

Note:

A mosquito at (x, y) is inside the conical net which is of radius r and at centre x_0, y_0 iff $(x - x_0)^2 + (y - y_0)^2 \leq r^2$.

Input

First line contains no. of test cases t .

First line of each test case contains size of room, base radius of net, number of mosquitoes in the format " $N r num$ ".

$$1 \leq N \leq 10000, \quad 0.1 \leq r \leq 10000.0, \quad 1 \leq num \leq 15$$

There are num lines following the first line of the test case, each representing a mosquitoes co-ordinate in the form ' $x_i y_i$ ' ($-N/2 \leq x_i, y_i \leq N/2$). The Co-ordinates are floating point numbers.

No leading zeros. Floating point numbers are either in whole number format or in decimal point format.

Co-ordinates for a test case are non-repetitive. (No two x_i, y_i in a test case is same).

Output

Each line should contain the maximum number of mosquitoes that can be trapped for the corresponding test case.

Sample Input

```
4
10 0.9 4
0 1
1 0
-1 0
0 -1
10 1 4
```

```
0 1
1 0
-1 0
0 -1
10000 0.61 4
1.1 0.1
1.2 0.3
0.4 -2.0
1.1 -0.9
10000 4.7532 4
5 0
3 4
-4 3
2 2
```

Sample Output

```
2
4
3
4
```